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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/643,483	08/22/2000	Santhana Krishnamachari	US 000212	9547

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER
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WU, ALLEN S

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 07/23/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/643,483

Applicant(s)

KRISHNAMACHARI, SANTHANA

Examiner

Allen S. Wu

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al, US Patent 5,915,027, in view of Dittmann et al, Combine video and audio watermarking: Embedding content information in multimedia data.

As per claim 1, Cox et al discloses method of protecting a multimedia object (abstract), comprising the steps of: providing a watermark (fig 2, col 5 ln 10-34); splitting the watermark into a first part and a second part (watermark segmenter, col 5 ln 15-23); and outputting a watermark multimedia object (watermarked data, col 5 ln 28-34).

Cox et al further discloses inserting the parts of the watermark into first and second parts of the data (inserted into data blocks, col 5 ln 10-34). Cox et al does not explicitly teach inserting the first part of the watermark into the first media component and inserting the second part of the watermark into a second media component. Dittmann et al discloses inserting watermarks into a first

media component and a second media component (page 455 paragraph 1 – page 456 paragraph 2 and page 461 paragraph 1 – 462 paragraph 3). Both Cox et al and Dittmann disclose a method of copy prevention of digital data with the use of watermarks. Data blocks can consist of any type of digital data, including components of multimedia objects. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Dittmann et al within the system of Cox et al because it would have strengthened copy prevention by spreading the watermark over different components of multimedia data.

As per claims 2, 9, and 11, Cox et al further discloses receiving the watermarked multimedia object (fig 4; col 5 ln 65-col 6 ln 14); extracting a first and second watermark part (sub watermark, col 6 ln 2-7) combining the first extracted watermark part with the second extracted watermark part (col 6 ln 6-23); and comparing the combined first and second extracted watermark parts with the provided watermark to verify an ownership (col 3 ln 28-35).

Cox et al teaches extracting watermark parts from digital data parts (sub regions, col 5 ln 65 – col 6 ln 6). Cox et al does not explicitly teach the extracting of a first watermark part from a first media component of the watermarked multimedia object and a second watermark part from a second media component of the watermarked multimedia object. Dittmann et al discloses extracting watermarks from audio and video components of multimedia data (page 455

paragraph 1 – page 456 paragraph 2). Both Cox et al and Dittmann disclose a method of copy prevention of digital data with the use of watermarks. Data blocks can consist of any type of digital data, including components of multimedia objects. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Dittmann et al within the system of Cox et al because it would have increased copy prevention by spreading the watermark over different components of multimedia data.

As per claims 3, 8, and 12, Cox et al discloses embedding a watermark into digital data (abstract). Cox et al does not explicitly teach the watermark being a signature watermark. Dittmann et al discloses a signature watermark (content-fragile watermark, page 459 paragraph 1 and page 461 paragraphs 5-6) including obtaining a signature of the multimedia object (content features, page 461 paragraph 5), and generating the signature watermark as a function of the signature (fig 6; binary operations, page 461 paragraph 5-6). Both Cox et al and Dittmann et al disclose a method of protecting digital data through the use of watermarking. A watermark consists of digital data that is used for embedding into data. The watermark can be generated by a variety of means well known in the art. Dittmann et al discloses the signature watermarks for integrity verification (page 459 paragraph 1). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the

teachings of Dittmann et al within the system of Cox et al because it would have increased integrity of the digital data.

As per claims 4 and 10, Cox et al further discloses al further discloses receiving the watermarked multimedia object (fig 4; col 5 ln 65-col 6 ln 14); extracting a first and second watermark part (sub watermark, col 6 ln 2-7) combining the first extracted watermark part with the second extracted watermark part (col 6 ln 6-23); generating a combination watermark by combining the first extracted watermark part with the second extracted watermark part (col 3 ln 28-35 and col 5 ln 65 – col 6 ln 14).

Cox et al teaches extracting watermark parts from digital data parts (sub regions, col 5 ln 65 – col 6 ln 6). Cox et al does not explicitly teach the extracting of a first watermark part from a first media component of the watermarked multimedia object and a second watermark part from a second media component of the watermarked multimedia object. Dittmann et al discloses extracting watermarks from audio and video components of multimedia data (page 455 paragraph 1 – page 456 paragraph 2 and (page 461 paragraph 1 – 462 paragraph 3). Both Cox et al and Dittmann disclose a method of copy prevention of digital data with the use of watermarks. Data blocks can consist of any type of digital data, including components of multimedia objects. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Dittmann et al within the system of Cox et al because it

would have increased copy prevention by spreading the watermark over different components of multimedia data.

Cox et al further discloses comparing the combined first and second extracted watermark parts with the provided watermark to verify an ownership (col 3 ln 28-35). Cox et al does not explicitly teach comparison of the combination watermark with a signature watermark to authenticate the multimedia object. Dittmann et al discloses a signature watermark (content-fragile watermark, page 459 paragraph 1 and page 461 paragraphs 5-6) including generating the signature watermark as a function of the signature of digital data (fig 6; binary operations, page 461 paragraph 5-6). Both Cox et al and Dittmann et al disclose a method of protecting digital data through the use of watermarking. A watermark consists of digital data that is used for embedding into data. The watermark can be generated by a variety of means well known in the art. Furthermore, generating the signature watermark that is a function of a signature extracted from the watermarked multimedia object is inherent to the integrity verification (page 459 paragraph 1) of Dittmann et al. A signature watermark that is a function of a signature extracted from the watermarked multimedia object must be generated in order to be compared with the watermark that is extracted from the digital data. Dittmann et al discloses the signature watermarks for integrity verification (page 459 paragraph 1). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to

combine the teachings of Dittmann et al within the system of Cox et al because it would have increased integrity of the digital data.

As per claim 5, Cox et al discloses a protection of digital data through the use of a watermark (abstract) comprising a mechanism for splitting a watermark into a first and a second part (segmenter, col 5 ln 10-34); and a mechanism for inserting the first part of the watermark into a first data block and inserting the second part into the second data block (col 5 ln 10-34).

Cox et al further discloses inserting the parts of the watermark into first and second parts of the data (inserted into data blocks, col 5 ln 10-34). Cox et al does not explicitly teach inserting the first part of the watermark into the first media component and inserting the second part of the watermark into a second media component. Dittmann et al discloses inserting watermarks into a first media component and a second media component (page 455 paragraph 1 – page 456 paragraph 2 and page 461 paragraph 1 – 462 paragraph 3). Both Cox et al and Dittmann disclose a method of copy prevention of digital data with the use of watermarks. Data blocks can consist of any type of digital data, including components of multimedia objects. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Dittmann et al within the system of Cox et al because it would have strengthened copy prevention by spreading the watermark over different components of multimedia data.



As per claim 6, Cox et al discloses outputting a watermarked object (watermarked data, col 5 ln 28-34), the first data block having the first part of the watermark, and the second data block having the second part of the watermark (col 5 ln 10-34).

Cox et al further discloses inserting the parts of the watermark into first and second parts of the data (inserted into data blocks, col 5 ln 10-34). Cox et al does not explicitly teach inserting the first part of the watermark into the first media component and inserting the second part of the watermark into a second media component. Dittmann et al discloses inserting watermarks into a first media component and a second media component (page 455 paragraph 1 – page 456 paragraph 2 and page 461 paragraph 1 – 462 paragraph 3). Both Cox et al and Dittmann disclose a method of copy prevention of digital data with the use of watermarks. Data blocks can consist of any type of digital data, including components of multimedia objects. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Dittmann et al within the system of Cox et al because it would have strengthened copy prevention by spreading the watermark over different components of multimedia data.

As per claims 7 and 13, Cox et al discloses embedding a watermark into digital data. Cox et al does not explicitly teach a first media component being an

audio component and a second media component being a video component.

Dittmann et al discloses inserting watermarks audio and video components of multimedia data (page 455 paragraph 1 – page 456 paragraph 2), the first component being audio data and the second component being video data (figs 6 and 7; page 461 paragraph 5 – page 462 paragraph 2 and page 461 paragraph 1 – 462 paragraph 3). Both Cox et al and Dittmann disclose a method of copy prevention of digital data with the use of watermarks. Data blocks can consist of any type of digital data, including components of multimedia objects. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Dittmann et al within the system of Cox et al because it would have strengthened copy prevention by spreading the watermark over different components of multimedia data.

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al, US Patent 5,915,027, in view of Dittmann et al, Combine video and audio watermarking: Embedding content information in multimedia data as applied to claim 13 above, and further in view of Uz, US Patent 6,351,538.

As per claim 14, the combination of Cox et al and Dittmann et al disclose a watermarked multimedia object comprising of audio and video components as described above. The combination of Cox et al and Dittmann et al does not teach the watermarked multimedia object having a third media component, and wherein the third media component is a closed caption component. Uz discloses

a multimedia object having a third media component (component signals, col 3 In 16-24), wherein the third media component is a closed caption component (col 3 In 16-24). Both Uz and the combination Cox et al and Dittmann disclose methods of protecting multimedia data. Closed captioning is well known in the art to provide text for the hearing impaired in multimedia data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to add the closed captioning component disclosed by Uz within the combination of Cox et al and Dittmann et al because it would have increased functionality by providing extra multimedia services to the hearing impaired.

### ***Response to Arguments***

4. Applicant's arguments see page 7, filed 17 May 2004, with respect to claim 7 have been fully considered and are persuasive. The 35 USC 112 rejection of claim 12 has been withdrawn.

5. Applicant's arguments filed 17 May 2004 have been fully considered but they are not persuasive.

Applicant remarks that Cox et al in view of Dittmann et al alone or combination with Uz does not teach such features as "inserting the first part of the watermark into the first media component and inserting the second part of the watermark into the second media component" and "extracting a first watermark part from the first media

component, and for extracting a second water mark part from the second media component, " and further states that Dittmann is relied on for addressing such features (see remarks pages 7-8). However, Dittmann is only relied on as a means of separating media into audio and video components (page 455, abstract, "we embed a signal as a watermark to detect gaps or changes in the flow of time"). Cox is relied on, among other features, "inserting the first part of the watermark into the first media component" (col 5 ln 10-34) and inserting the second part of the watermark into the second media component and "extracting a first watermark part from the first media component and extracting a second watermark part from the second media component" (col 6 ln 2-7). Cox discloses that the data that is broken into parts can be "applicable to video, image and multimedia data and the term 'image' and 'image data' would be understood to include these terms where applicable" (col 4 ln 20-23). Furthermore, a component is defined as "a constituent part" (Webster's Third New International Dictionary, page 466). Dittmann, disclosing segmenting "the data into blocks or sub regions", is creating parts of multimedia data, and thus media components. Furthermore, Cox discloses extraction by segmenting the data "into blocks by data segmenter" (col 5 ln 67-col 6 ln 1) and extracting watermarks from each data block (col 6 ln 3-6). Therefore, such features of "inserting the first part of the watermark into the first media component" and "extracting a first watermark from the first media component" and "extracting a first watermark part from the first media component, and for extracting a second watermark part from the second media component," is disclosed by Cox whereas Dittmann is relied upon as a

specific example for inserting watermarks into different media components, including audio and video.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen S. Wu whose telephone number is 703-305-0708. The examiner can normally be reached on Monday-Friday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 703-305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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